

## Bell work

① Describe transformation of  $f(x) = |x|$

$$f(x) = 3|x-2|+4$$

Vertical stretch by a factor of 3  
Shift right 2 units  
Shift up 4 units

② Simplify  $\left(\frac{x^3 y^4}{z^5}\right)^{-2} \cdot \left(\frac{x^4 y}{z^{10}}\right) = \frac{x^{-6} y^{-8}}{z^{-10}} \cdot \frac{x^4 y}{z^{10}}$

$$\frac{\cancel{z^{10}} x^4 y}{x^6 y^8 \cancel{z^{10}}} \cdot \frac{1}{x^2 y^7}$$

# Graphing Absolute Value Functions

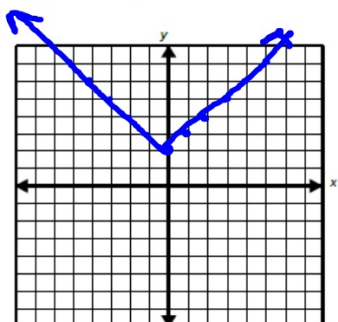
General Function:

$$6 = 4 + 2$$

$$y = |x| + 2$$

1.  $y = |x| + 2$

$h = 0$     $k = 2$   
Vertex =  $(0, 2)$   
"slope" =  $1$

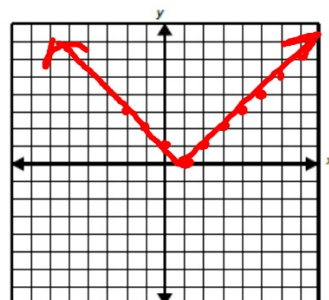


$$y = a|x - h| + k$$

where  $a =$  "slope"  
 $(h, k) =$  Vertex

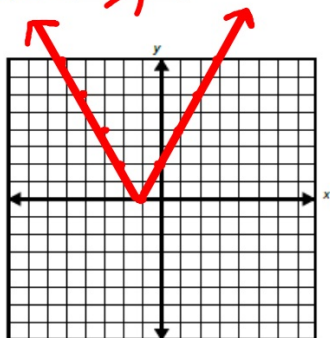
2.  $y = |x - 1|$

$h = 1$     $k = 0$   
Vertex =  $(1, 0)$   
"slope" =  $1$



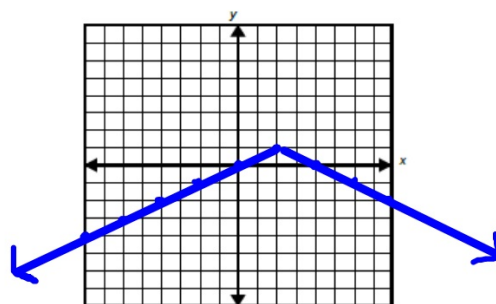
3.  $y = 2|x + 1|$

h = -1 k = 0  
 Vertex = (-1, 0)  
 "slope" = 2/1



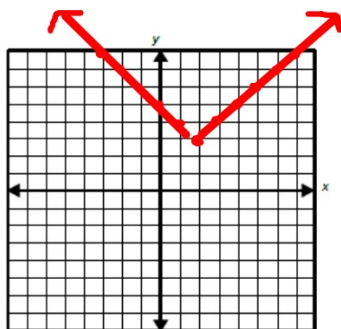
4.  $y = -\frac{1}{2}|x - 2| + 1$

h = 2 k = 1  
 Vertex = (2, 1)  
 "slope" = -1/2



5.  $y = |x - 2| + 3$

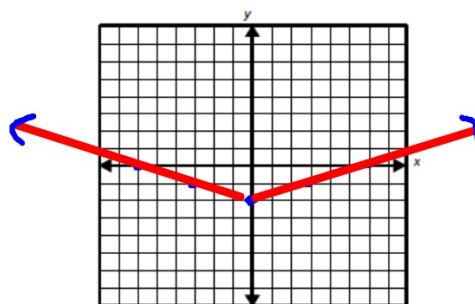
$h = 2$   $k = 3$   
 Vertex =  $(2, 3)$   
 "slope" =  $1/1$



Vertex  
 "Slope"

6.  $y = \frac{1}{3}|x| - 2$

$h = 0$   $k = -2$   
 Vertex =  $(0, -2)$   
 "slope" =  $1/3$



Homework Practice 1  
 1-6 Front

